

BRIEF COMMUNICATION

FIRST QUEENSLAND RECORD OF THE BURROWING FROG *CYCLORANA CRYPTOTIS* TYLER & MARTIN, 1977 (ANURA : HYLIDAE).

During fauna surveys conducted in Cape Melville National Park (150 km north-west of Cooktown) and adjacent areas, new species and new records of vertebrates and earthworms were obtained^{1,2}. Following a thunderstorm on 21.xi. 1995, large numbers of frogs were found in a localised area (14°34'45" S, 144°29'50" E) approximately 7-9 km west by road of the Wakooka Outstation. A call unfamiliar to me was in the large chorus. Observation revealed a species of burrowing frog of *Cyclorana* not recorded in Queensland. Thirteen males and one female were collected. The call was recorded, tissues sampled and photographs taken.

On the basis of morphology and call I tentatively identify the frog as *Cyclorana cryptotis*, a small burrowing frog previously known from northern Western Australia and the Northern Territory.

Individuals conform in colour and appearance to the description of *C. cryptotis* Tyler and Martin, with a highly mottled dorsum of slate, grey and salmon with a distinct salmon post-orbital bar (Fig. 1). The appearance is strikingly similar to the photograph in Tyler *et al.* 1982. In preservative, the salmon colouration was lost. The nuptial pads were salmon and faded in preservative. The ventral surface was white and males had a slate throat. The tympanum was covered with skin in all animals. Toes were half-webbed with no expanded terminal discs.



Fig. 1. Male *Cyclorana cryptotis* from west of Wakooka Outstation, Queensland.

The general appearance is of a dumpy and robust frog (Fig. 1). Measurements, following previous methods³, fall within the range of *C. cryptotis*⁴. Snout-vent length ranges from 35.7-45.9 mm, with the only female measuring 38.1 mm. Legs are short (TL/SV 0.33-0.39) and the eye to naris distance is greater or less than the internarial span (E-N/N 0.955-1.141) (Table 1).

Frogs were found in temporary, rain-filled pools along a drainage line in low, open woodland on clay soils. The vegetation was dominated by *Melaleuca stenostachya* and *Eucalyptus leptophleba* (Fig. 2). Altitude was 40 ± 10 m.

Call duration was 503 msec with a pulse repetition rate of 113 pulses sec⁻¹ and a dominant frequency of 800 Hz. The pulse repetition rate is lower than those males of *C. cryptotis* described in the literature and Lake Argyle area (185-193 pulses sec⁻¹, 26 km NE Lake Argyle Tourist Village⁵; 145-160 pulses sec⁻¹, [G. F. Watson pers. comm. 1997], Lake Argyle; 158 pulses sec⁻¹ for holotype, Daly Waters⁶) (Table 2). Temperatures at the calling site were 28.2° C (water) and 27.2° C (air).

Cyclorana cryptotis was calling while floating in water. When the vocal sac inflated the anterior half of the body was lifted. The inflation and deflation of the vocal sac caused the body to rock in a manner similar to *Notaden melanoscaphus* observed elsewhere in Cape York. At other localities in its range *C. cryptotis* usually calls whilst floating in water (G. F. Watson pers. comm. 1997) although the holotype was calling from land (A. A. Martin pers. comm. 1997). The single female was collected floating in the water in axillary amplexus. Two other species of *Cyclorana*, *C. brevipes* and *C. novae-hollandiae*, called from the banks of pools whereas *Limnodynastes ornatus* called with *C. cryptotis* in the pools.

The presence of *C. cryptotis* near Wakooka Outstation represents a range extension of 900 km east from previous locality records obtained by Davies, Tyler and Watson at Borroloola, Northern Territory (SAMA R 43702, 16°12' S 136°51' E). The intervening area across the gulf plains has not been extensively sampled and additional populations may be expected. The location of all records for *C. cryptotis* is in a band across northern Australia from Derby, Western Australia to Wakooka Outstation near Cape Melville between 14°30' S and 17°20' S.

Other frogs collected with *C. cryptotis* were: *C. brevipes*, *C. novae-hollandiae*, *Litoria alboguttata*, *L. caerulea*, *L. rubella*, *Limnodynastes ornatus*, *Notaden melanoscaphus* and *Uperoleia nympha*.

Voucher specimens of *C. cryptotis* collected at the Wakooka site are in the Atherton office of Department of Environment collection Nos N 30 000, N 72018-20, 72023-25, 72035-36, 72040-44.

TABLE 1. Morphological measurements of 14 *Cyclorana cryptotis* from west of Wakooka Outstation, Queensland. Abbreviations follow Tyler & Martin (1975).

	SVL	TL/SVL	HW/SVL	HW/TL	ED/HW	E-N/N
Range	35.7-45.9	0.339-0.39	0.36-0.43	0.923-1.169	0.26-0.343	0.955-1.141
Mean	39.509	0.356	0.386	1.085	0.294	1.065



Fig 2. Habitat of *Cyclorana cryptotis* west of Wakooka Outstation, Queensland. Frogs were calling from the temporary pool.

Morphologically these specimens conform closely with *C. cryptotis*. However in view of the size of its range extension as well as the differences in call structure, the identification should be regarded as provisional until substantiated by biochemical analysis.

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TABLE 2. Call variation within *Cyclorana cryptotis*.

Superscript numbers in source column refer to references. W - Water temperature, A - air temperature, at calling sites.

Source & call sample	Locality	Dominant frequency	Call duration (milliseconds)	No. of pulses	Pulse sec ⁻¹	Calls min ⁻¹	Temperature °C
This paper n=1	Wakooka, Qld	800	503	58	113.3	77.4	28.2 (W)
G. F. Watson (pers. comm. 1997) n=2	Lake Argyle area, WA	920	439-455	65-74	145.8	83.9	-
Holotype ¹	Daly Waters, NT	1060	530	-	158	-	24.1 (A)
Tyler <i>et al.</i> ² n=1	Lake Argyle area, WA	850-1100	330-348	61-70	183-193	-	26.9 (A)

¹Jamieson, B. G. M. (1997) Mem. Qld Mus. 42, 233-270.

²McDonald, K. R. (1997) *Ibid.* 42, 307-309.

³Tyler, M. J. & Martin, A. A. (1975) Trans. R. Soc. S. Aust. 99, 93-99.

⁴Tyler, M. J., Davies, M. & Martin, A. A. (1982) Copeia 1982, 260-264.

⁵Tyler, M. J. & Martin, A. A. (1977). Rec. S. Aus. Mus. 17, 261-276.